REMARKS

Applicant has carefully reviewed the Examiner's Office Action dated August 4, 2004 in which the Examiner objected to the drawings under 37 CFR 1.83(a); rejected claims 4-7 under 35 U.S.C. 112, second paragraph; rejected claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Nollet (US 4,599,577); rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Nollet in view of Conta et al. (US 6,265,944); and rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Nollet in view of Applicant's submitted prior art, Fig. 1.

Amendments to the Drawings

Fig. 3 has been amended to clearly show the integrated and strip-line inductors of claims 3 - 4.

Amendments to the Claims

Applicant has amended the claims to more clearly define the invention, taking into consideration the outstanding Official Action.

Claim 8 has been canceled from further prosecution, without prejudice or disclaimer to the subject matter therein.

Claims 4, 5 and 7 have been amended to overcome the 35 U.S.C. 112 rejections, and claim 1 has been amended to overcome 35 U.S.C. 102(b) rejection.

All of the amendments are fully supported by the original disclosure of this application and therefore do not constitute the introduction of any new matter into this case.

Objection of Drawing Under 37 CFR 1.83(a)

The inductor of claim 3 is directly formed on a semiconductor chip, while the inductor of claim 4 is a strip-line inductor connected to a module outside a semiconductor. Fig. 3 has been amended to clearly show the borders of semiconductors in accordance with claim 3 (chip with inductor thereon) and claim 4 (chip without inductor thereon), respectively. Applicant respectfully submits that the drawings are now in complete condition for acceptance.

Rejection of Claims 4 – 7 Under 35 U.S.C. 112

Claims 4, 5 and 7 have been amended to overcome 35 U.S.C. 112 rejections. Accordingly, it is respectfully requested that the Examiner's rejections of claims 4 - 7 be withdrawn. Applicant now submits that claims 4 - 7 are now in complete condition for allowance.

Rejection of claims 1 and 2 under 35 U.S.C. 102(b) by Nollet (US 4,599,577)

The rejection of claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Nollet has been carefully considered, but is most respectfully traversed in view of the amendments to the claims. In this regard, Applicant wishes to direct the Examiner's attention to MPEP §2131 which states that to anticipate a claim, the reference must teach every element of the claim:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The present invention, as defined in the amended claim 1, is directed to a broadband amplification apparatus for extending a bandwidth, comprising a first and a second amplifying unit for amplifying an input signal; a buffering unit, which is disposed between the first and the second amplifying unit, for buffering an output signal of the first amplifying unit to thereby maintain a bandwidth of the output signal, increasing a gain and returning back a portion of the buffered signal to the first

amplifying unit; and a first inductive buffer, which is connected to a bias terminal of the buffering unit, for enhancing an input impedance as a frequency increases within a predetermined range, thereby introducing little gain changes while serving to extend a bandwidth.

Applicant most respectfully submits that the circuit disclosed in the present invention is totally different from that of Nollet, and particularly that Nollet fails to disclose the amplifying unit, the buffering unit, and the claimed inductive buffer.

In detail, the comparator 4 in Nollet receives an output of a comparator 2 and a saw-tooth shaped signal provided by a saw-tooth generator 5, to output a comparing result. Consequently, Nollet does not mention that the comparator 4 works as an amplifier at all.

Further, the transistor 6 of Nollet cannot be a buffering unit. As stated in Nollet, the transistor 6 is functioning as a bias circuit to adjust a base voltage of the transistor 1, while TR302 of the present invention works as a voltage buffer that connects TR301 with TR303. Clearly, since TR302 is functioning as a buffer, the signal to be amplified passes through TR302. However, in contrast, since the transistor 6 is not a buffer but an additional bias circuit, the signal does not pass through the transistor 6. As shown in column 4 lines 21-28 in Nollet, the signal to be amplified is applied to the transistor 1 through capacitor C1. This also indicates that the transistor 6 is not a buffer, and further is not related to the signal to be amplified.

The signal routes are illustrated in following Fig.3 of the present invention and Fig. 2 of Nollet, as dashed lines with arrows. Moreover, the transistor 6 never gives a feedback, which is mentioned for the buffering unit in claim 1 of the present invention.

FIG.3

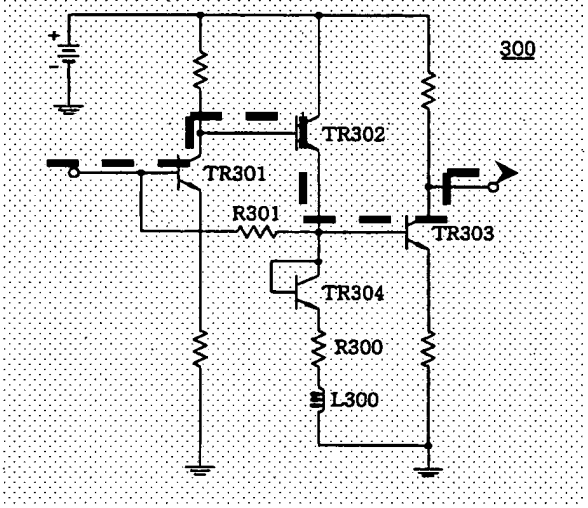
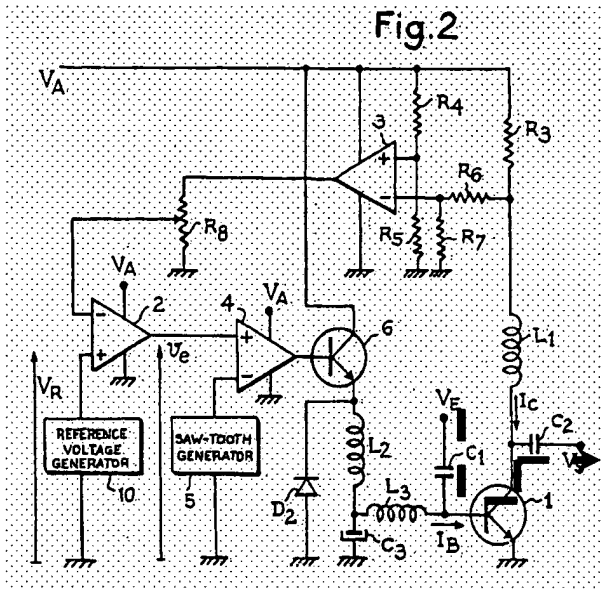


Fig.2



With regard to the inductor L2, it should be noted that the inductor L2 is not connected to a bias terminal of the transistor 6, even assuming that the transistor 6 is a buffering unit.

An object of the present invention is to provide an amplification apparatus capable of extending a bandwidth with little gain changes to thereby increase an IC speed. For example, if the bandwidth increases from 8.4 GHz to 10.5 GHz as shown in Fig. 2, the IC speed increases approximately from 8.4 Gbps to 10.5 Gbps, more than 20 %.

In contrast, the object of Nollet is to maintain a constant polarization current and to decrease the energy consumption, i.e., the polarization power. In short, Nollet is not intended to provide a bandwidth extension and an increased IC speed, as well as cannot provide the same.

Consequently, the subject matters in claim 1 is totally different from the disclosures of the cited reference. Accordingly, it is most respectfully requested that this rejection be withdrawn.

It is also believed that claims 2 - 7 depending on claim 1 are allowable for the same reasons indicated with respect to the claim 1, and further because of the additional features recited therein which, when taken alone and/or in combination with the features recited in the claim 1, remove the invention defined therein further from the disclosures made in the cited references.

CONCLUSION

Applicant believes that this is a full and complete response to the Office Action. For the reasons discussed above, Applicant now respectfully submits that all of the pending claims are in complete condition for allowance. Accordingly, it is respectfully requested that the Examiner's rejections be withdrawn; and that claims 1-7 be allowed in their present form.

If the Examiner feels that any issues that remain require discussion, he is kindly invited to contact Applicant's undersigned attorney, preferably by telephone, to resolve the issues.

In view of the above comments and further amendments to the claims herein, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted
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Dated: November 3, 2004

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Audrey de Souza (Typed or printed name of person mailing paper or fee)

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Amendments to the Drawing

The attached sheet of drawings includes changes to Fig. 3. This sheet, which includes Figs. 3 and 4, replaces the original sheet including Figs. 3 and 4.

Attachments: Replacement Sheet
Annotated Sheet Showing Changes

FIG. 3

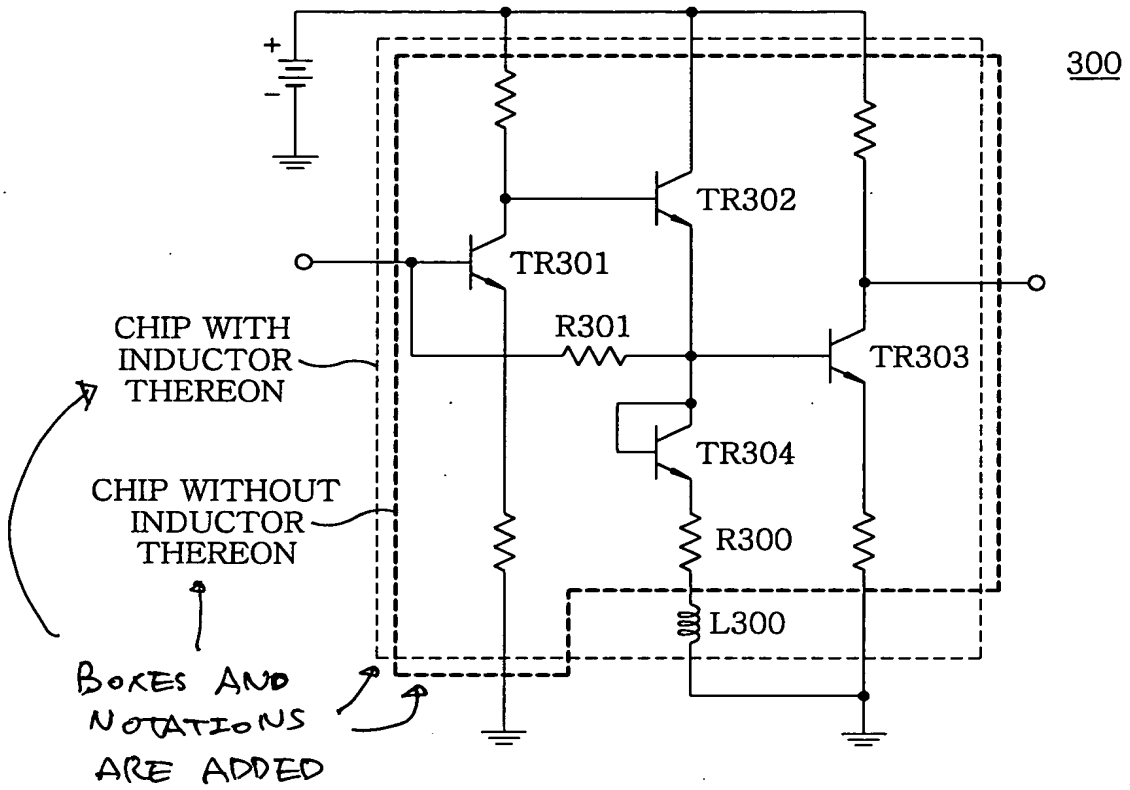

FIG. 4